Dialectal variation in Norwegian imperatives

Curt Rice
University of Tromsø

1. Introduction

The formation of imperatives in Norwegian shows interesting interaction between phonology and morphology. Some verbs have a structure which results in phonologically ill-formed imperatives when the standard strategy for imperative formation is followed. In this paper, I illustrate this situation and outline a range of strategies which speakers employ to solve the problem. An optimality-theoretic analysis of these strategies is given, showing that some of the strategies are strictly phonological, while others show influence from the structure of the infinitive in the same paradigm.[1]

2. Imperative formation I: the standard cases

Most infinitives in Norwegian end with a schwa. Imperative formation for these verbs might be characterized as a subtractive process, whereby the final schwa is deleted. Since the vast majority of Norwegian verbs are disyllabic, the vast majority of imperatives will be monosyllabic, although the same process holds of longer forms such as *å kalkulere*, *kalkulér!* 'to calculate'. Examples include the following, which illustrate the correctness of the generalization, regardless of the intervocalic material.

(1) Singletons.

å spise – spis!	'eat'	å vise – vis!	'show'
å gjøre – gjør!	'do'	å skrive – skriv!	'write'
å greie – grei!	'manage'	å vie – vi!	'dedicate'
å dreie – drei!	'turn'	å true – tru!	'threaten
å lete – let!	'search'	å gripe – grip!	'seize'
å bruke – bruk!	'use'	å pleie – plei!	'nurse'

(2) Geminates.

å legge – legg!	'lay'	å finne – finn!	'find'
å snakke – snakk!	'speak'	å kutte – kutt!	'cut'

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(3) Clusters.

å koste – kost!	‘sweep’	å kaste – kast!	‘throw’
å løfte – løft!	‘lift’	å ønske – ønsk!	‘wish’
å regne – regn!	‘calculate’	å tenke – tenk!	‘think’
å velge – velg!	‘choose’	å følge – følg!	‘follow’
å starte – start!	‘start’	å vente – vent!	‘wait’
å hente – hent!	‘fetch’	å huske – husk!	‘remember’
å sikte – sikt!	‘aim’	å hevde – hevd!	‘assert’
å virke – virk!	‘seem’	å hjelpe – hjelp!	‘help’
å miste – mist!	‘lose’	å satse – sats!	‘invest’
å vokse – voks!	‘grow’	å sørge – sørg!	‘attend to’
å stanse – stans!	‘stop’	å tekste – tekst!	‘subtitle’
å nekte – nekt!	‘refuse’	å frykte – frykt!	‘fear’
å merke – merk!	‘mark’	å kjempe – kjemp!	‘fight’
å fjerne – fjern!	‘remove’	å fiske – fisk!	‘fish’
å feste – fest!	‘celebrate’	å rense – rens!	‘rinse’
å skjerpe – skjerp!	‘sharpen’	å skjerme – skjerm!	‘hide’
å elske – elsk!	‘love’	å friste – frist!	‘tempt’
å gift – gift!	‘marry’	å tegne – tegn!	‘draw’
å riste – rist!	‘shake’	å makte – makt!	‘manage’
å danse – dans!	‘dance’	å stifte – stift!	‘staple’

A smaller, but nonetheless central, class of verbs in Norwegian are monosyllabic and end in a stressed vowel. For these verbs, the imperative is identical to the bare infinitive, as seen in (4).

(4) Imperatives for monosyllabic verbs.

å gå – gå!	‘walk’	å be – be!	‘pray’
å ta – ta!	‘take’	å ha – ha!	‘have’
å bli – bli!	‘stay’	å si – si!	‘say’
å se – se!	‘see’	å slå – slå!	‘hit’
å bo – bo!	‘live’	å nå – nå!	‘reach’
å by – by!	‘offer’	å dra – dra!	‘drag’
å dø – dø!	‘die’	å snu – snu!	‘turn’
å så – så!	‘plant’	å tre – tre!	‘step’
å spre – spre!	‘spread’	å sy – sy!	‘sew’
å trå – trå!	‘tread’		

These two strategies for imperative formation can be unified by positing the notion of the verbal stem, in which case we can simply identify the imperative as being identical with that stem (Faarlund 1992, Faarlund, Lie & Vannebo 1997).

3. Imperative formation II: clusters with rising sonority

When the intervocalic cluster in a verb has rising sonority, the imperative cannot be identical to the stem, since such a form would have a coda cluster with rising sonority (Kristoffersen 1991, 2000, Nesset 1998). Examples of such verbs are seen in (5).

(5)

åpne	'open'	vitne	'witness'	ordne	'arrange'
kvikne	'revive'	boble	'bubble'	koble	'connect'
padle	'paddle'	handle	'shop'	sykle	'bike'
takle	'tackle'	hekle	'crochet'	fikle	'fiddle'
hagle	'hail'	vagle	'roost'	klatre	'climb'
ytre	'express'	samle	'collect'	sikre	'secure'
vikle	'wrap'	endre	'change'	forbedre	'improve'
hindre	'impede'	varsle	'notify'	fordre	'require'

Imperatives such as **.åpn.*, **.sykl.*, **.klatr.* would be expected if the imperative were to be identical to the stem. But these consonant clusters are not well-formed codas. A cluster with rising sonority provides a second sonority peak for a syllable, after the vowel in the nucleus, and this is excluded by definition, cf. Clements (1990).

One analytical strategy for excluding coda clusters with rising sonority employs constraint conjunction (Smolensky 1995, Itô & Mester 1998). However, conjunction alone does not specify the order of the elements, such that a constraint prohibiting the conjunction of [p] and [n] in the same coda will rule out both [pn] and [np]. For conjunction to succeed, the positions in the coda have to be specified, yielding constraints such as *C1/P&*C2/N, *C1/K&*C2/L, *C1/T&*C2/R, etc., for which a single coda must be specified as the domain (Cf. Baertsch 1998, 2002, Hammond 1999). While something along these lines may be a viable strategy, this level of detail will be avoided here, and we opt instead for the following *ad hoc* constraint which covers the portion of the markedness hierarchy dominating faithfulness constraints (cf. Rochon 2000 for related discussion).

(6) *ILLEGALCLUSTER: Don't be an illegal cluster.

Our focus here is on coda clusters, and this constraint will be violated by any form which includes a coda cluster in which the second consonant is more sonorous than the first.

4. Alternate strategies for imperative formation

Given the verbs presented in §3 and the nonviability of the stem as an imperative, speakers must resort to alternate strategies for expressing the imperative mood with these verbs.

At least five strategies have been attested for speakers when faced with the task of forming imperatives from these verbs.[2] One common strategy for speakers is to avoid these verbs in the imperative mood, choosing circumlocutions instead. These circumlocutions most often involve a modal verb, followed by the infinitive form of the problematic verb. In our analysis, this case will be analyzed as an instance of the null parse.[3]

A second strategy is to make the imperative disyllabic, allowing the sonorant consonant to head a second syllable. This strategy yields an imperative which differs minimally from the stem, in this case only with respect to the value for the feature [syllabic] for the sonorant consonant.

When the first consonant of the cluster is voicelenss, its rising sonority can be undermined by devoicing the sonorant consonant, introducing a third attested strategy for imperative formation from these verbs. This strategy makes it possible to produce a monosyllabic imperative, differing from the stem only with respect to the value of the feature [voice] for the sonorant consonant.

The strategies involving slight modification of the featural specifications of the sonorant consonant will entail violation of faithfulness constraints. In particular, identity constraints which specifically name the relevant features will be used, as in (7) and (8). These constraints are ranked high in the dialects which do not use these strategies, and low in the dialects which do use them. The faithfulness constraints presented in this paper are based on correspondence theory and drawn from McCarthy & Prince (1995).

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[2] The conference presentations and an expanded version of this paper also discuss the unattested strategies of cluster simplification and metathesis, which must be precluded by the grammar as well. Space restrictions preclude inclusion of this discussion here.

[3] A subtle variant on the avoidance strategy allows speakers to utter these imperatives only when the subsequent word in the utterance begins with a vowel, such that the second consonant of the problematic cluster is syllabified as an onset. An analysis of this minor variant is also presented in the fuller version of the paper, and also receives brief discussion in Rice & Svenonius (1998).

(7) IDENTITY[VOICE] When a segment in the input and a segment in the output are in a correspondence relationship, they have the same value for the feature [voice].

(8) IDENTITY[SYLLABIC] When a segment in the input and a segment in the output are in a correspondence relationship, they have the same value for the feature [syllabic].

The final two strategies attested by speakers seem to involve epenthesis, locating an epenthetic vowel either after the cluster or into it. These processes make the second consonant of the cluster, respectively, an onset, as in .syk.lə., or a coda, as in .syk.kəl. [4]

Epenthesis disrupts adjacency, and faithfulness constraints which are attuned to such adjacency will be violated by these forms. In the dialects which use epenthesis strategies, the relevant faithfulness constraints are low ranked. Dialects which exclude this strategy rank the relevant constraints highly. Two kinds of adjacency are relevant for the present analysis. CONTIGUITY addresses two strings in a correspondence relationship and requires that segments which are contiguous in one string are also contiguous in the other.[5]

(9) CONTIGUITY: For two strings S1 and S2 in a correspondence relationship, the portions of S1 and S2 which are contiguous are also contiguous in S2 and S1, respectively.

Epenthesis after the offending coda cluster does not disrupt the contiguity of a string of segments, but rather disrupts the string-terminal status of one segment. The constraint prohibiting this is ANCHOR.

(10) ANCHOR: An element which is at the edge of the input has a correspondent which is at the edge of a designated domain in the output.

5. Paradigm uniformity effects

Schwa has a dual role in the phonology of Norwegian. It is both the infinitival suffix in the morphological paradigm, and the epenthetic vowel

[4] The [k] is geminated here to satisfy the requirement that the first syllable be heavy. For more discussion of the relationship between stress and quantity, see Rice 2002.

[5] McCarthy & Prince (1995) decompose CONTIGUITY into I-CONTIGUITY – which prohibits skipping – and O-CONTIGUITY – which prohibits intrusion. This distinction will be important when unattested candidates are included in the analysis, but can be suppressed here.

in the phonology (cf. Kristoffersen 2000). As a result, epenthesis of a schwa as a strategy for producing imperatives can be ambiguous. When the schwa is epenthesized subsequent to the cluster, the result is an imperative which is identical to the infinitive. This raises the question as to whether that process is a strictly phonological process of epenthesis. Another perspective could be that the shape of the infinitive influences the selection of the optimal imperative.

Two pieces of evidence suggest that the formation of imperatives from these problematic verbs is not exclusively a phonological process, but that the shape of the infinitive is indeed relevant. The evidence comes from Norwegian dialects.

Some dialects of Norwegian do not use schwa for both of the functions described above. Selected western Norwegian dialects use schwa for epenthesis, for example when borrowing words with nonnative clusters, but use *–a* as the infinitive suffix, yielding examples such as *å sykla, å klatra, å åpna*. For the imperatives under consideration, speakers of these western dialect produce forms such as *sykla*! *klatra*! *åpna*! This suggests that the imperatives are not formed via epenthesis, since the epenthetic schwa is not present. Rather, an imperative is created which is identical to the infinitive.

In other dialects, especially in Trøndelag and northern Norway, some speakers use infinitive forms which lack a final schwa. Infinitives for these speakers have a schwa between the consonants, which might be written orthographically as *å sykkel*. There is some variation among these speakers in the formation of imperatives, such that some use the devoicing strategy, others use the syllabic sonorant strategy, and yet others use epenthesis between the consonants, again resulting in an imperative which is identical to the infinitive.

Although the strategy which an individual speaker may use is unpredictable, a reliable generalization is that none of these speakers create imperatives with a final schwa. In other words, the option of epenthesizing a schwa after the cluster of the stems in question is a strategy which is available only to speakers having final schwa in their infinitive forms. Therefore, imperatives with a final schwa cannot be seen as resulting from a strictly phonological process. Those imperatives are preferred in part because of their identity with the infinitive. This conclusion leads us to analyze these forms as sensitive to the paradigm, which is represented for our purposes here with a constraint requiring identity between the imperative and the infinitive. Or, more correctly, with a set of correspondences between these two forms, all of which are collapsed here for pedagogical reasons into the constraint given in (11).

(11) IMPERATIVE=INFINITIVE: All correspondence constraints mapping the candidate imperative to the infinitive are satisfied.

Of course, this is the second constraint of this kind we will need. The core requirement for the imperative is that it be identical to the stem, as argued in §2, which can be captured with the constraint in (12).

(12) IMPERATIVE=STEM: All correspondence constraints mapping the candidate imperative to the stem are satisfied.

6. Absolute ungrammaticality and the null parse

Constructions which have no realization in a language – inputs which have a phonetically unrealizable output in OT – can be described as absolutely ungrammatical (Ackema & Neeleman 2000). In §4, the first strategy mentioned for making imperatives from the verbs in §3 is circumlocution. In other words, some speakers avoid the imperatives for these verbs, and in this way, those speakers can be said to have grammars in which the imperatives are absolutely ungrammatical. It is incumbent on a theory of grammar to characterize absolute ungrammaticality, and that is the focus of this section.

One of the most familiar cases from morphology involves the formation of comparatives and superlatives in English. The comparative suffix *–er* and the superlative suffix *–est* can only be affixed to words of sufficiently limited size. *Red* easily becomes *redder* and *reddest*, and *happy* also can become *happier* and *happiest*. The suffixation of *burgundy*, however, results in the ungrammatical **burgundier* and **burgundiest*. Rather, the circumlocutions *more burgundy* and *most burgundy* must be used to express the concepts of comparative and superlative. Prosody is also relevant to explaining the impossibility of adding the verbalizing suffix *–ize* to forms with final stress, cf. *rándomize* vs. **corrúptize* (Raffelsiefen 1996 as cited in Orgun & Sprouse 1999). Specific segmental content can also lead to absolute ungrammaticality, as in the case of the Dutch agentive suffix *–erd*. The adjective *vies* 'dirty' becomes *viezerd* 'dirty person' but *dapper* 'brave' cannot become **dappererd* 'a brave person' because of the final /ər/ in the adjective (Booij 2000). Examples of absolute ungrammaticality can be found in all domains of grammar, and also in the acquisition process (Kiparsky & Menn 1977).

The architecture of optimality theory is such that all tableaux have a candidate output which is optimal. The analysis of absolute ungrammaticality requires that an optimal output is selected, but that this output – even though it is optimal – is flawed in some (literally)

unspeakable way. Prince & Smolensky (1993) develop the idea that a candidate may lack assignment to a morphological category, violating a constraint MPARSE. (Cf. Kager 2000 for the related proposal MMAX.) When MPARSE is low ranked, a candidate which violates this constraint may be optimal. But while this candidate may be grammatically optimal, it is nonetheless uninterpretable in the phonetic component, and therefore cannot be uttered. This candidate need not be assessed against other constraints, as it is seen as 'always and only' violating MPARSE (McCarthy 2002). The perspective here is summarized in the following citations.

> "Failure to achieve morphological parsing is fatal…[It] renders a word unusable as an element in a Phonological Phrase … This is the structural correlate of phonetic invisibility." (Prince & Smolensky 1993:48ff.).

> "… a construction can be ruled out in a particular language if there is a crucial interaction between a Parse constraint and some constraints(s) that define structural wellformedness. Thus language-specific ineffability can be understood." (Ackema & Neeleman 2000).

The PARSE family of constraints are markedness constraints. However, it seems counterintuitive that the single constraint violation incurred by the null parse should be against a markedness constraint. If the null parse lacks some material necessary for well-formedness, whether that be assignment to a morphological category, or prosodic structure of some kind, it should perform well on markedness constraints, often vacuously. Instead, the infractions committed by the null parse seem to be faithfulness violations, since material from the input may be lacking in the output. Given these considerations, I follow McCarthy (2002:197) in assuming that the null output does indeed violate faithfulness, and that MPARSE should be considered a temporary solution, pending research which more specifically identifies the constraints violated by this candidate. [6]

[6] An alternate strategy for absolute ungrammaticality is advanced in Orgun & Sprouse (1999). They propose an additional domain for constraint evaluation, called CONTROL. In the CONTROL domain, constraints are 'hard' such that violation is fatal. The optimal candidate from EVAL advances to CONTROL. If it satisfies the constraint(s) in CONTROL, the output is well-formed. If it violates the constraint, then there is no output for the given input. For the discussion of Norwegian, *IC would be the constraint in control for the dialects in which the null output is optimal, cf. Tableau 5. All candidates not identical to the stem would be eliminated in EVAL, and the candidate identical with the stem is eliminated in CONTROL, given the *IC violation. Orgun & Sprouse represent this situation with a tableau like the following one.

stem: .sykl. input: .sykl.	IMP=STEM

7. Tableaux and discussions

The tableaux illustrating this analysis are presented below. Each tableaux has six candidates; the first one is the ungrammatical form which is identical with the stem. This candidate is ruled out due to its ill-formed syllable structure, violating the constraint *ILLEGALCLUSTER. The remaining five candidates are each optimal in one variety of the language. The five grammars associated with these five candidates are represented in the tableaux.

Candidate (b) represents the strategy of making the sonorant syllabic. This candidate deviates from the stem by a change in the feature [syllabic], suggesting that the constraint IDENT[SYLL] must be relatively low ranked, as in tableau 1. When the ranking of IDENT[SYLL] and IDENT[VOI] is reversed, candidate (c) with a voiceless sonorant will be optimal, as in tableau 2. The remaining candidates are ruled out by the faithfulness constraints ANCHOR, CONTIGUITY and MPARSE.

stem: .sykl. inf: .syk.lə. input: .sykl.	MPARSE	*IC	IMP=ST	ANCHOR	CONTIG	ID[VOI]	ID[SYL]	IMP=INF
a. .sykl.		*!						*
b. ☞ .syk.kl̩.			*				*	*
c. .sykl̥∞			*			*!		*
d. .syk.lə.			*	*!				
e. .syk.kəl.			*		*!			*
f. .sykl. ⊙	*!							

Tableau 1

a. EVAL	☞.sykl.	
	.syk.kl̩.	*!
	.sykl̥∞	*!
	.syk.lə.	*!
	.syk.kəl.	*!
		*IC
b. CONTROL	✂ .sykl.	*!

The dialects with a nonnull output will have *IC as a constraint in EVAL, and will have no constraints in CONTROL. This perspective makes the differences between the dialects of Norwegian even greater, since the variation is not only a result of reranking, but also a result of the removal (or not) of a constraint to the CONTROL domain. The variation among dialects in Norwegian supports the classic OT idea that there is a candidate which corresponds to a null phonetic output, and this candidate is optimal under a certain ranking of constraints. Reranking gives a different output, as seen in abundance in the Norwegian case.

stem: .sykl. inf: .syk.lə. input: .sykl.	MPARSE	*IC	IMP=ST	ANCHOR	CONTIG	ID[SYL]	ID[VOI]	IMP=INF
a. .sykl.		*!						*
b. .syk.kl̩.			*			*!		*
c. ☞ .sykl∞			*				*	*
d. .syk.lə.			*	*!				
e. .syk.kəl.			*		*!			*
f. .sykl. ⊙	*!							

Tableau 2

The discussion of candidate (d) above suggested that it is optimal in a grammar which prioritizes identity of the imperative and the infinitive. The constraint requiring such identity will eliminate the other candidates when it is relatively highly ranked. In this case, it must be promoted, at least above any constraint violated by candidate (d). Furthermore the constraint eliminating the null parse, MPARSE, must dominate IMPERATIVE=INFINITIVE. The crucial rankings, then, are MPARSE » IMP=INF » ANCHOR.

stem: .sykl. inf: .syk.lə. input: .sykl.	MPARSE	*IC	IMP=ST	IMP=INF	ANCHOR	O-CONTIG	ID[SYL]	ID[VOI]
a. .sykl.		*!		*				
b. .syk.kl̩.			*	*!			*	
c. .sykl∞			*	*!				*
d. ☞ .syk.lə.			*		*			
e. .syk.kəl.			*	*!		*		
f. .sykl. ⊙	*!							

Tableau 3

By moving CONTINGUITY relatively low in the hierarchy, candidate (e) survives the elimination of all other candidates, as seen in tableau 4. This tableau also demonstrates the need for using both ANCHOR and CONTIGUITY, as opposed to simply using DEP. The constraint DEP would penalize an output containing material not present in the input; in other words, DEP penalizes epenthesis. Both candidates (d) and (e) would violate DEP and therefore be left undistinguished. Under that scenario, candidate (e) will never be optimal. Hence, it is necessary to use more than one correspondence constraint, such that candidates (d) and (e) can be distinguished from one another.

stem: .sykl. inf: .syk.lə. input: .sykl.	MPARSE	*IC	IMP=ST	ID[SYL]	ID[VOI]	ANCHOR	CONTIG	IMP=INF
a. .sykl.		*!						*
b. .syk.kl̩.			*	*!				*
c. .sykl∞			*		*!			*
d. .syk.lə.			*			*!		
e. ☞ .syk.kəl.			*				*	*
f. .sykl. ⊙	*!							

Tableau 4

Finally, the grammar displaying absolute ungrammaticality must eliminate all other candidates before the null parse violation of MPARSE is relevant. This is easily accomplished by the ranking IMP=STEM » MPARSE, as in tableau 5.

stem: .sykl. inf: .syk.lə. input: .sykl.	*IC	IMP=ST	MPARSE	ANCHOR	CONTIG	ID[SYL]	ID[VOI]	IMP=INF
a. .sykl.	*!							*
b. .syk.kl̩.		*!				*		*
c. .sykl∞		*!					*	*
d. .syk.lə.		*!		*				
e. .syk.kəl.		*!			*			*
f. ☞ .sykl. ⊙			*					

Tableau 5

In tableaux 1-4, candidates (a) and (f) are eliminated by the highly ranked constraints *IC and MPARSE. The remaining candidates, (b-e) all violate the requirement that the imperative be identical to the stem, leaving the selection of the optimal output to lower ranked faithfulness constraints. The grammars differ by the reranking of those faithfulness constraints.

Tableau 5 stands out due to the ranking of MPARSE, and I conclude this paper with a brief comment regarding a learner's evidence for this ranking is in order. If we take the perspective that the learner of this grammar must demote MPARSE, we require a learner to notice the emptiness of the 'imperative cell' in the paradigm of these verbs. Observations of this type have been appealed to in the generative literature in other situations as well; for example, Italian speaking children have been imagined to set the null subject parameter on the basis of noticing the absence of explicit subjects in sentences, a perspective which appears in the literature as

recently as in Baker (2001:44). Nonetheless, a theory requiring the child learner to notice gaps of this type may be construed as crucially appealing to negative evidence. In the case at hand, an alternative perspective avoids this problem.

Suppose, as noted above, that the null output's violation of MPARSE represents violation of faithfulness requirements. Suppose further that MPARSE is low ranked in the initial state for grammar formation, following much work suggesting that the task of acquisition involves the demotion of initially high-ranked markedness constraints (cf. Tesar & Smolensky 2000). When MPARSE is sufficiently low, the null output will win. Tableau 5 represents the crucial property of this scenario. From this point of view, the acquisition of the grammar in Tableau 5 does not require the demotion of MPARSE from an otherwise highly ranked position. Rather, the grammars represented in Tableaux 1-4 require the demotion of markedness constraints to a position below MPARSE. The consequence of relatively high-ranked MPARSE is that the null output is eliminated from consideration, and a phonetically realizable output is instead optimal. The evidence for promoting MPARSE is not negative. When a speaker hears imperatives produced, this information requires that the null output not be optimal, and the necessary adjustment is made. This sketch suggests that the contrast between the dialects which realize an imperative and those which do not is derivable from positive evidence and the subsequent modifications to constraint ranking.

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